

REMARKS/ARGUMENTS

Claims 1-22 stand rejected in the outstanding Official Action. In spite of the rejection, the Examiner also indicates that claims 7-22 are withdrawn from consideration. Applicant has amended claims 1 and 23, cancelled claim 26 and added newly written claims 27 and 38. Accordingly, it is submitted that claims 1-25, 27 and 28 remain in this application.

The Examiner's indication that claims 1-22 are rejected, as well as the admission that claims 1-26 were pending in the Official Action is appreciated (see the information contained on the Office Action Summary Sheet of the outstanding Official Action). However, the Summary Sheet contains no indication of the disposition of claims 23-26. It is assumed that this is an oversight, as the Examiner does address claims 23-26 in the body of the rejection.

Applicant also queries the Examiner with respect to Applicant's previously submitted priority claim. The present application is a national phase entry of PCT Application PCT/GB03/01255. The U.S. PTO Notice of Acceptance mailed on January 25, 2005 confirms receipt of the International application as well as the International Search Report. Pursuant to PCT requirements, the U.S. PTO is required to acknowledge a priority claim based on the national phase entry even though the applicant only submits a single certified copy of the priority document to WIPO in the initial PCT prosecution. Normally U.S. patent examiners mark boxes "12," "a" and "3" on the Office Action Summary Sheet (PTOL-326). It is possible that the failure to mark these boxes by this Examiner was an oversight and confirmation is respectfully requested in any future Official Action.

Attached to the outstanding Official Action are a number of Information Disclosure citation sheets signed by Examiner Footland and dated August 24, 2006. However, the first

sheet is completely blank as to U.S. patent documents, foreign documents or other documents.

Applicant queries the advisability of the Examiner's signing and dating blank documents.

The second document is a PTO Form attached to Applicant's Information Disclosure Statement submitted February 10, 2005 listing the prior art which was of record in the PCT International application which was forwarded to the US PTO PCT Receiving Office. In this document, while the Examiner has initialed the disclosure of a U.S. patent (Tanaka U.S. Patent 5,683,183, which has also been applied as a prior art reference in the outstanding Official Action), the Examiner has crossed through the foreign patent documents and the "other documents" listed. The Examiner has indicated by an asterisk with respect to these documents that "no copies supplied."

The Examiner may not be aware that the Patent Office has previously requested applicants to refrain from submitting copies of prior art documents which are already of record in the International PCT application. Applicant notes that the above noted Notice of Acceptance confirms that the U.S. PCT Receiving Office at least received the "copy of the International Search Report" and copy of the "International Preliminary Examination Report." Copies of these documents are supplied by the Applicant as a courtesy, but are, under the PCT Rules, forwarded to the U.S. PTO Receiving Office by WIPO. Should the PCT Receiving Office not have forwarded these documents to the Examiner for consideration, the Examiner's course of action is to contact the Receiving Office and obtain appropriate copies of any missing documents from WIPO.

Applicant has complied with all applicant requirements with respect to national phase entry of a PCT International application. Confirmation that the Examiner has considered the art of record in the International PCT application is respectfully requested.

In the first paragraph on page 2 of the Official Action, the Examiner suggests that "contrary to applicant's listing, claim(s) 7-22 are withdrawn from further consideration by the examiner." The Examiner cites 37 CFR 1.142(b) as a basis for his restriction requirement. However, it is noted that restriction procedure for national phase entry applications (resulting from a PCT International application) are restricted by the Patent Cooperation Treaty and U.S. Patent and Trademark Office regulations implementing such treaty. Accordingly, the Examiner has simply applied the wrong restriction standard, i.e., the standard applicable to conventional U.S. applications and not the standard in compliance with the Patent Cooperation Treaty and national phase entry of International applications. The Examiner is respectfully requested to apply the correct restriction procedure.

Also, as previously noted, the Examiner should confirm that claim 1 is generic of all species disclosed and claimed. Claim 1 is a generic claim covering all of the alleged distinct species. Reconsideration of the statutory basis and the application of that statutory basis regarding the restriction requirement is respectfully requested.

In response to the second full paragraph on page 2, Applicant believes that all claimed features have been illustrated. However, should the Examiner believe some claimed species has not been illustrated, he is respectfully requested to notify Applicant of any such defect he believes is present in the present application.

Claims 1-3, 6 and 23-26 stand rejected under 35 USC §102 as being anticipated by Tanaka (presumably U.S. Patent 5,683,183, as there is no other Tanaka reference identified other than the Tanaka reference made of record in Applicant's Information Disclosure Statement). The Examiner alleges that Tanaka discloses all of the claimed elements. However, this is not the complete test for anticipation under 35 USC §102. The Court of Appeals for the Federal Circuit has noted in the case of *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick*, 221 USPQ 481, 485 (Fed. Cir. 1984) that "[a]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." (emphasis added). Thus, in addition to the claimed elements, the prior art must also disclose any claimed interrelationship between the elements to support an anticipation rejection.

The Examiner correctly alleges that there are convergent bearing surfaces present in Figures 12a and 12b and as discussed in Tanaka's 6th embodiment. However, Applicant's claim not only requires a convergent bearing surfaces, but also requires the first bearing surface to move towards the convergent region and to entrain fluid into movement towards "said convergent region." The claim also requires that the second bearing surface slips relative to said fluid. As a result of the one surface entraining fluid and the other surface slipping fluid and the one surface moving towards the converging area, pressure is generated within said fluid between the surfaces. This pressure supports a load applied to said first bearing surface and to said second bearing surface.

As shown in Figure 12a and b of Tanaka, there is no indication that a first bearing surface "entrains said fluid into movement towards said convergent region." While there clearly is fluid

in the convergent region R, there is no indication that fluid has been entrained by any bearing surface into movement towards the convergent region.

The Tanaka reference, and in particular the referenced 6th embodiment at Figures 12a and 12b, is concerned with utilizing capillary action to maintain fluid in the convergent region of the bearing surfaces. There is no indication that any surface in Tanaka is a fluid entraining surface.

Moreover, there is no indication in Tanaka that one surface moves “**towards**” the convergent region as required by the claimed invention. The convergent region is the area of the herringbone-shaped grooves 5c. While shaft 3 rotates relative to sleeve 5, it does not move towards the convergent region between the shaft and the sleeve – it only rotates within the region. If the shaft does not move relative to the convergent region, it certainly cannot entrain the fluid to move **towards** the convergent region.

It is Applicant's invention to utilize a first bearing surface which entrains fluid into movement towards the convergent region, which fluid movement generates a pressure within the fluid between the two surfaces which supports a load.

The Tanaka reference fails to teach any bearing surface which moves relative to the convergent region so as to entrain said fluid into movement **towards** said convergent region and a second bearing surface which slips relative to the fluid, wherein the interrelationship of the surfaces with the fluid and the movement towards the convergent region results in a pressure within the fluid applied to the two bearing surfaces.

The Examiner is reminded that rotation of a shaft within a sleeve certainly has movement, i.e., the rotation of the shaft relative to the sleeve. However, if the area between the

shaft and the sleeve is a convergent region, this rotation in the convergent region is not the same as the claimed "movement towards said convergent region" (emphasis added).

Applicant has amended claims 1 and 23 to more positively recite not just the structures, but also the interrelationship between structures in Applicant's inventive bearing. As is shown in Applicant's examples, one of the bearing surfaces moves towards the convergent region and is a surface which entrains fluid between the surfaces into similar movement towards the convergent region. The other bearing surface slips relative to the fluid and permits the fluid to be moved towards the convergent region, which movement generates a pressure within the fluid which is applied to both bearing surfaces, thereby keeping them apart and bearing a load.

There is simply no analogous structure or structural interrelationship disclosed in the Tanaka reference. There is no movement of a first bearing surface towards a convergent region (Tanaka merely teaches rotation in the convergent region and not movement towards the convergent region) and there is no entraining of fluid by one surface to move towards the convergent region and there is no second bearing surface which slips relative to the fluid. Thus, unless the Examiner can point to some other reference which discloses not only the recited structures, but the recited structural interrelationships, he has simply failed to meet his burden of proof under §102 or even §103. Therefore, absent any further prior art teaching the subject matter of claims 1-3, 6 and 23-25 (claim 26 having been cancelled without prejudice), the rejection of the claims over the Tanaka reference is respectfully traversed.

Claims 4, 5 and 7-22 stand rejected under 35 USC §103 as unpatentable over Tanaka and "official notice of common knowledge in the art, and/or, in the alternative, engineering design choice." Inasmuch as this rejection depends from the Examiner's interpretation of the Tanaka

reference and claims 4, 5 and 7-22 ultimately depend from claim 1, the above comments distinguishing claim 1 from the Tanaka reference are herein incorporated by reference.

Additionally, the Examiner's allegation that Applicant's claimed structures and claimed structural interrelationships are "of common knowledge in the art, and/or, in the alternative, engineering design choice" is respectfully traversed. Applicant relies upon MPEP Section 2144.03 which states that "if the applicant traverses such an assertion [of official notice of facts outside the record] the examiner should cite a reference in support of his or her position." Applicant respectfully traverses the Examiner's assertion that the limitations of claims 4, 5 and 7-22 are well known, common knowledge in the art and/or engineering design choices, especially in view of the fact that the Tanaka reference fails to teach claimed features such as bearing surfaces in which one moves relative to the other towards a convergent region and in the process entrains fluid into such movement as well and the other surface has a slippage capability with respect to the fluid. Accordingly, notwithstanding the Examiner's conclusion, Applicant finds there to be no *prima facie* basis for rejection of claims 4, 5 and 7-22 under the provisions of 35 USC §103 over the Tanaka reference and traverses any further rejection thereunder.

The point the Examiner is attempting to make in the first full paragraph on page 4 of the Official Action is not understood. The Examiner's suggests that "the broad provision of these features vis-à-vis those disclosed by the reference solves no stated problem insofar as the record is concerned." Applicant requests clarification of what features he is referring to and what reference he believes "solves no stated problem." If the Examiner is referring to features claimed in Applicant's claims and is alleging that Applicant's specification "solves no stated problem," he is simply incorrect, as the originally filed specification on page 2, lines 24-31 discussed a

SPIKES
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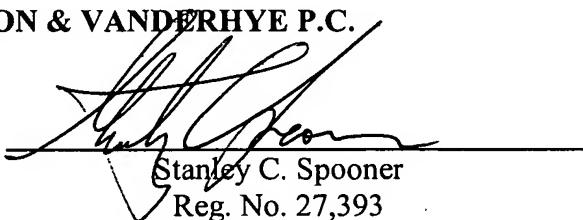
"significant barrier to the development of very small-scale machines such as micro-electromechanical systems (MEMs) is the problem of achieving effective lubrication of their moving parts." The remainder of Applicant's specification contains general and detailed disclosures of how this problem of lubrication is solved by Applicant's claimed structures and the claimed interrelationship between said structures. Accordingly, should the Examiner have intended the first full paragraph on page 4 to be some basis for rejection of the pending claims, that basis is respectfully traversed. However, in any event, clarification of the Examiner's intent of that paragraph would be appreciated.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that remaining claims 1-25, 27 and 28 are in condition for allowance and notice to that effect is respectfully requested. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of these claims, he is respectfully requested to contact Applicant's undersigned representative.

Respectfully submitted,

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